

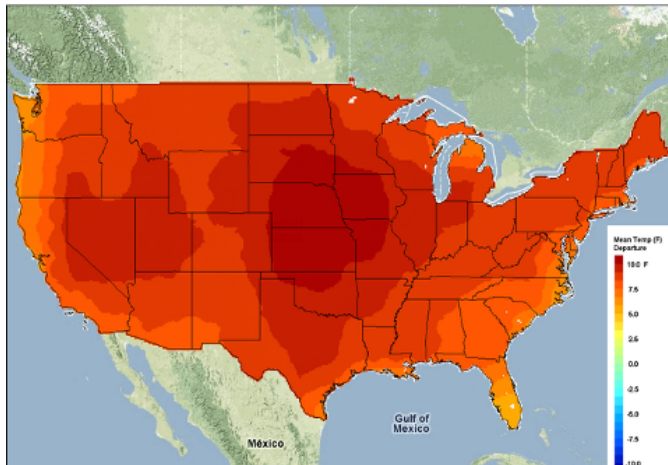
Landscape Conservation Cooperative

Great Northern

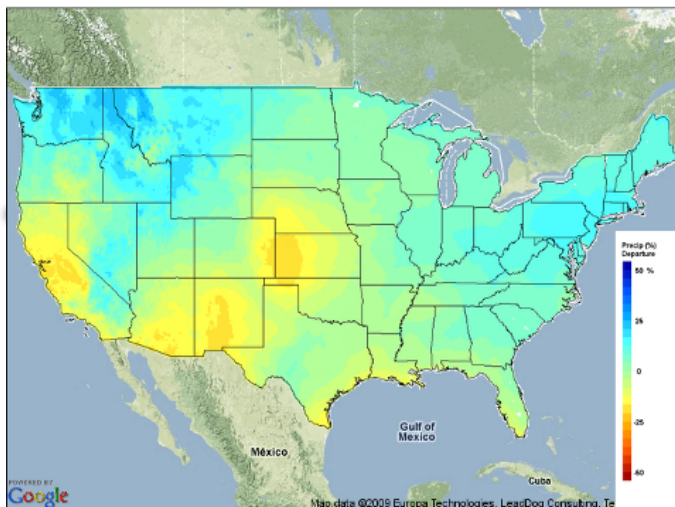


Landscape Drivers: Climate Change and others

Change in Average Annual Temperature by 2100
Model: Ensemble Average, SRES emission scenario A2



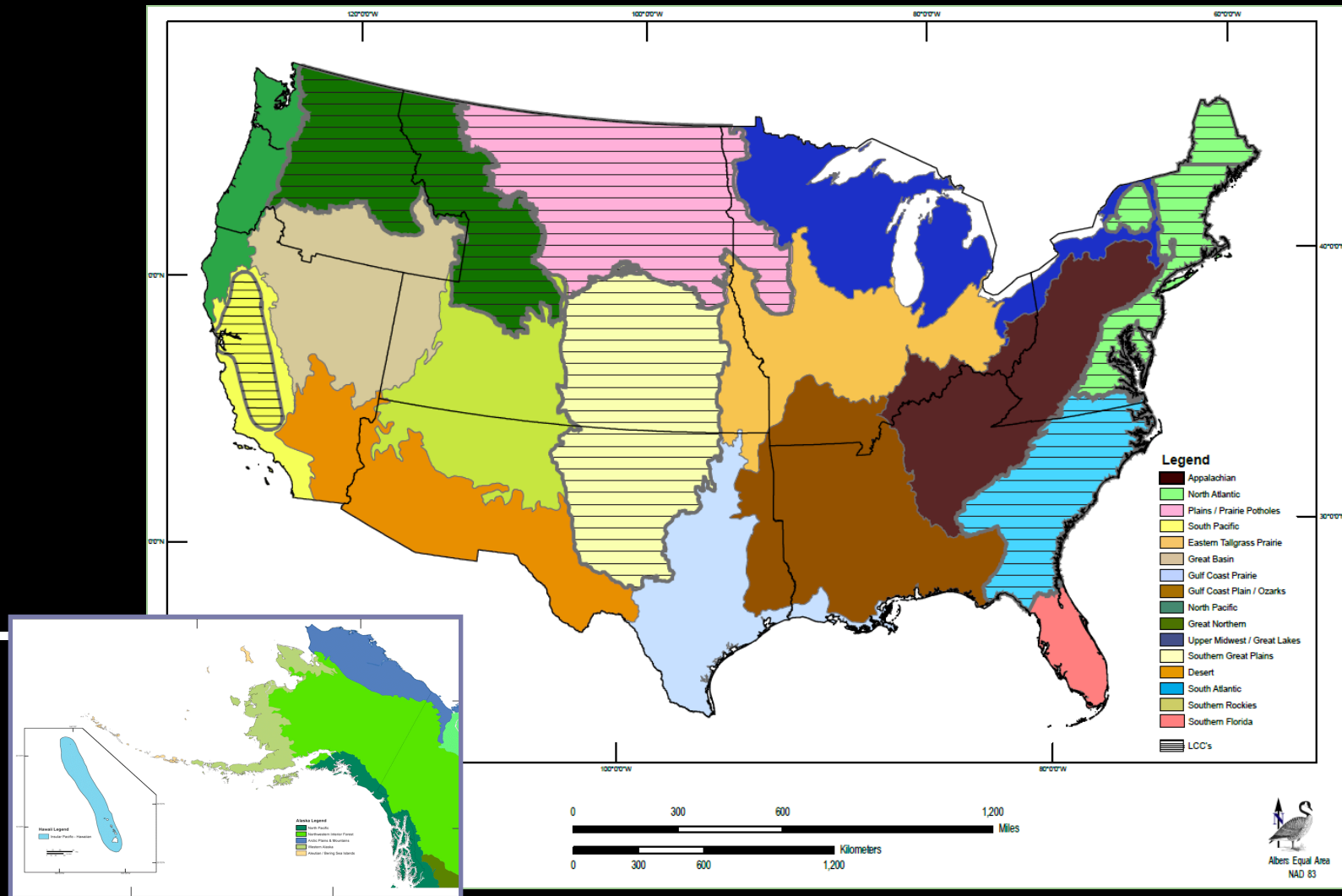
Change in Average Annual Precipitation by 2100
Model: Ensemble Average, SRES emission scenario A2



Map data ©2009 Europa Technologies, LeadDog Consulting, Inc.
Data Source: Base climate projections downscaled by Maurer, et al. (2007). We also acknowledge the following groups for providing the WCRP CMIP3 multi-model dataset available:
Program for Climate Model Diagnosis and Intercomparison, The WCRP's Working Group on Coupled Modeling and the Office of Science, US Department of Energy



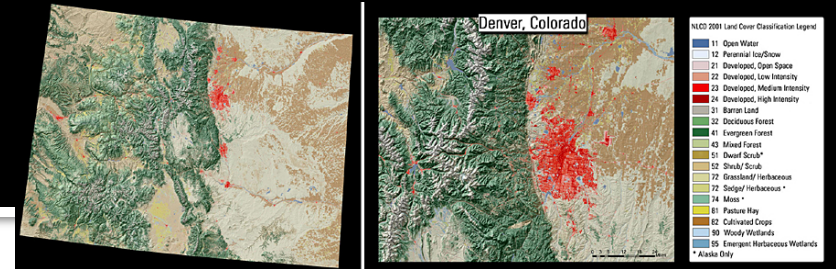
Geographic Framework



LCC Primary Functions

- Collaboratively identify and prioritize information needs to address threats to fish, wildlife landscape scale
- Serve as network for shared science capacity to support natural resource managers
- Provide science information and tools to be used in planning and conservation delivery
- Support adaptive management and monitoring strategies
- Interface specialized scientific expertise

Assessment Results



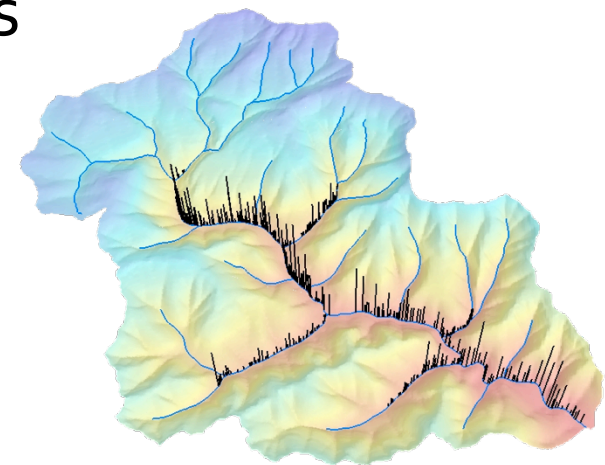
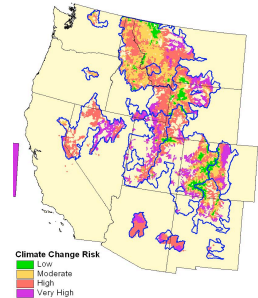
- Land Cover Data (e.g., Landfire, NLCD)
- Decision Support Tools to apply downscaled climate data
- Fine-scale linkage analysis for population connectivity
- National Wetlands Inventory
- Water resource vulnerability assessments
- Biological monitoring protocols
- Data mgmt/interfaces capabilities and tools

Data Management and Repository

Purpose

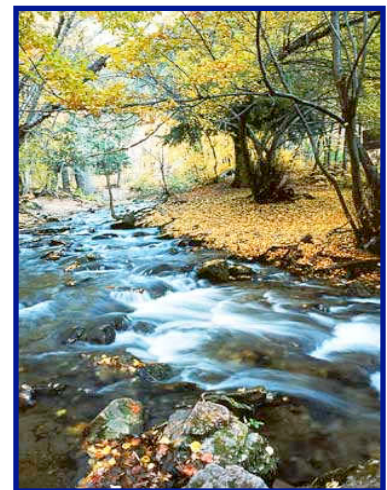
GNLCC Data management and availability

- SSP funded in 2009
- Geographic scope
- Data platform structure
- Key foundational data and sources
- QA/QC
- Long-term hosting capability
- Interfacing, applications and DSS



Potential LCC Outcomes

- Coordinated, down-scaled climate & ecological info
- Potential range shifts of priority species
- Vulnerability assessments for species and habitats
- Corridor analyses assessing present and future habitat
- Convergence of climate and non-climate stressors
- Inventory and monitoring strategies
- Data sharing and interfacing
- Leveraging of resources



Ecologically relevant climate info

- Physiographic-hydrographic relationships
 - Elevation
 - Vegetation
 - Micro-climate
- Seasonal patterns
 - Snow-water equivalent
 - Growing season
 - Phenology
 - Fire/drought/flood



Pika Climate/Habitat Analysis

■ Scale

- Climate data v. habitat/species info
 - Pika occupy talus @ m scale
 - Climate data relevant @ km scale
- Temporal and spatial relevance to ecological functions
 - Habitat micro-climate
 - Habitat patch dynamics
 - Physiological response



Pika Climate/Habitat Analysis

■ Technology

- Remote imagery reliable for terrestrial micro-habitat
- E.g. talus, 3-D micro-climate

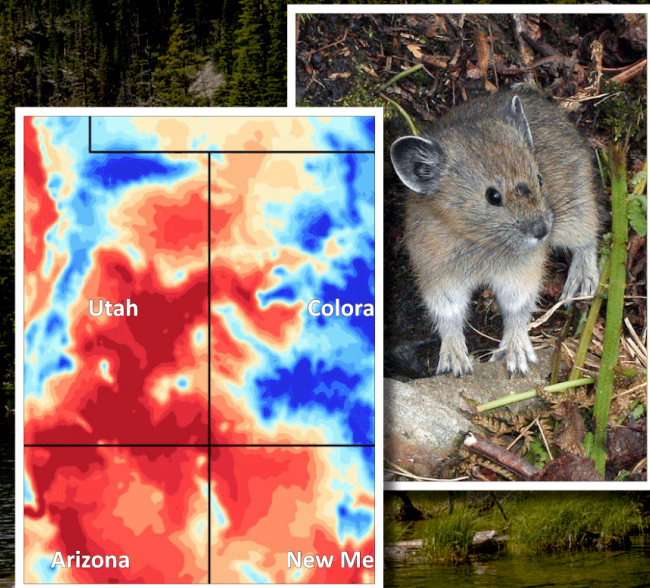
*Need tools that are:

- iterative
- cross-disciplinary
- interfacing

Rapid-Response Climate Assessment to Support the FWS Status Review of the American Pika

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January 29, 2010